

Name: \_\_\_\_\_ Date: \_\_\_\_\_

A2 CC: Domain Algebraically

Warm Up:

- 1) What situations do we have restrictions on the values that  $x$  can be?

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II. Find the **domain** of each

1.  $y = \frac{1}{x-3}$

2.  $y = \frac{5}{x^2-4}$

3.  $y = \frac{1}{x+9}$

4.  $y = \frac{x+1}{x^2-5x-24}$

5.  $y = \sqrt{x-5}$

6.  $y = \frac{5}{\sqrt{x-3}}$

7.  $y = \sqrt{x+7}$

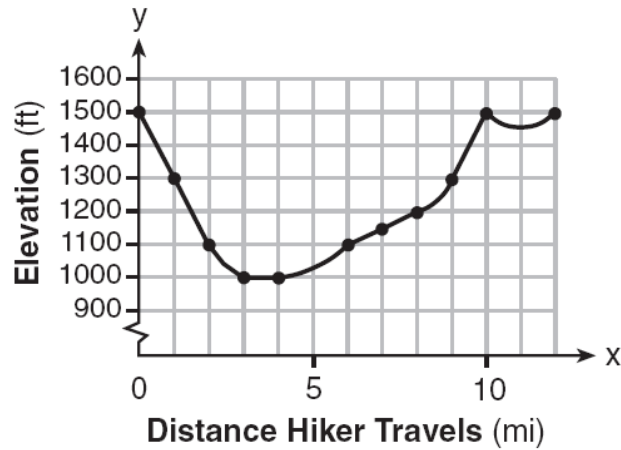
8.  $y = \frac{5}{\sqrt{x+9}}$

9.  $y = \sqrt{x-11}$

10.  $y = \frac{5}{\sqrt{2x+5}}$

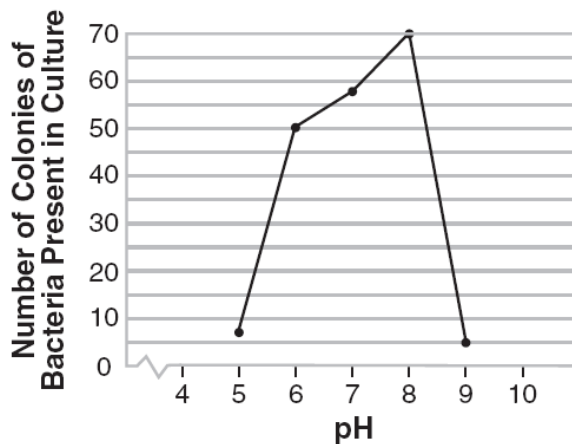
## III.

- 1) The accompanying graph shows the elevation of a certain region in New York State as a hiker travels along a trail.



What is the domain of this function?

- (1)  $1,000 \leq x \leq 1,500$       (3)  $0 \leq x \leq 12$   
 (2)  $1,000 \leq y \leq 1,500$       (4)  $0 \leq y \leq 12$
- 2) The accompanying graph illustrates the presence of a certain strain of bacteria at various pH levels.



What is the range of this set of data?

- (1)  $5 \leq x \leq 9$       (3)  $0 \leq y \leq 70$   
 (2)  $5 \leq x \leq 70$       (4)  $5 \leq y \leq 70$

## IV. More practice

Find the domain of each

1.  $y = \frac{1}{x-55}$

2.  $y = \frac{5}{x^2-9}$

3.  $y = \frac{134}{16-x}$

4.  $y = \frac{9}{x^2-81}$

5.  $y = \frac{5}{x^2+2x-24}$

6.  $y = \frac{x}{x^2+10x+25}$

7.  $y = \frac{56x-42}{x^2+36}$